

Expectations and Experiences of Side Effects Among Adolescent Women Using Intramuscular and Subcutaneous Depot Medroxyprogesterone Acetate

By: Rebekah L. Williams, Devon J. Hensel, [Amanda E. Tanner](#), and Dennis J. Fortenberry

RL Williams, DJ Hensel, AE Tanner, JD Fortenberry. (2010). Expectations and Experiences of Side Effects Among Adolescent Women Using Intramuscular and Subcutaneous Depot Medroxyprogesterone Acetate. *Journal of Pediatric and Adolescent Gynecology* 23 (2), e63-e64.

Made available courtesy of Elsevier: <https://doi.org/10.1016/j.ipag.2010.01.012>



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

***© 2010 North American Society for Pediatric and Adolescent Gynecology. Reprinted with permission. This version of the document is not the version of record. ***

Abstract:

Background: Intramuscular depot medroxyprogesterone acetate (DMPA-IM) has known physical side effects including changes in bleeding. A lower dose, subcutaneous formulation (DMPA-SC) is available with a similar side effect profile among adult women; however, side effect data are lacking among adolescent women. We compare DMPA-IM and DMPA-SC with respect to physical and sexual side effects among adolescent women, and describe changes in side effect expectations and experiences between first and second injections.

Keywords: published abstract | adolescent | contraceptives | side effects

Article:

Background: Intramuscular depot medroxyprogesterone acetate (DMPA-IM) has known physical side effects including changes in bleeding. A lower dose, subcutaneous formulation (DMPA-SC) is available with a similar side effect profile among adult women; however, side effect data are lacking among adolescent women. We compare DMPA-IM and DMPA-SC with respect to physical and sexual side effects among adolescent women, and describe changes in side effect expectations and experiences between first and second injections.

Methods: Study participants (SP) are 14-21 year old women (N=55) initiating DMPA. SP were recruited from primary care adolescent medicine clinics in a Midwest, urban setting and randomized to receive DMPA-IM or DMPA-SC at enrollment. Using a cross-over design, at 3-month follow-up they received the alternate formulation. At 6-month follow-up they chose and received their preferred formulation. SP completed self-administered surveys before each injection including 11-pt Likert items of current level of worry, concern about birth control side effects, and expected side effects of DMPA (changes in menstrual pattern, pain, weight, and sexual interest and enjoyment). At the time of the second and third DMPA injections, SP reported experience (no/yes) of these same side effects and of headache, mood changes, and hair

loss. Descriptive statistics and difference in means t-tests (SPSS 17.0) and logistic regression (SUDAAN 10.0) were used. Effects are significant at $p < 0.05$; analyses were limited to SP with three study visits (expectation and experience data contributed on both DMPA-IM and DMPA-SC), as each SP serves as her own control. The study protocol was approved by the university's IRB.

Results: Thus far, 28 SP, ages 14-19 years (mean 16), have contributed data for this analysis. At enrollment, SP expectations [mean(sd)] of side effects were highest for weight gain [6.5(3.4)], amenorrhea [6.0(3.8)], and decreased menstrual pain [5.6(4.1)]. At the second injection, expectations were highest for amenorrhea [6.2(3.3)], weight gain [6.0(3.4)], and irregular bleeding [5.6(3.6)]. No statistically significant differences were found between side effects experienced with DMPA-SC and DMPA-IM. The experienced side effects differed between the first and second injections as follows: increased bleeding (1st = 43%, 2nd = 18%), irregular bleeding (1st = 29%, 2nd = 7%), and decrease in sexual interest (1st = 3.6%, 2nd = 21.4%). Experience of the remaining side effects were similar for both injections. In regression analysis, experience of adverse events were not predicted by DMPA formulation or injection sequence, expectation of side effects, previous menstrual history, general worry, or concern about side effects.

Conclusions: Experience of DMPA side effects among adolescent women do not differ between IM and SC formulations, but do change with subsequent DMPA injection. While young women appropriately anticipate physical side effects (likely due to contraceptive counseling), sexual side effects are unexpected, despite being common. Future research and clinical counseling should include both physical and sexual side effects of DMPA.